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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,246	09/22/2003	Kazunari Tonami	242243US2	9509
22850	7590	01/25/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VO, QUANG N	
			ART UNIT 2625	PAPER NUMBER
			NOTIFICATION DATE 01/25/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/666,246	TONAMI ET AL.
	Examiner	Art Unit
	Quang N. Vo	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 November 2007.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 6-20, 26-30, 32-34, 36 and 38-40 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5, 21-25, 31, 35, 37 and 41 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/ are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

Applicant argues that Fuchigami does not teach a conversion unit that can convert an RGB signal into a CMY signal according to characteristics of color image material.

In reply, Fuchigami discloses a conversion unit that converts the RGB signal into a CMY signal according to characteristics of color image material (e.g., the color conversion section 131 is a processing section, which receives the RGB image signals sent from the color scanner 1, and converts them into CMY image signals. These CMY image signals represent the image-formation component colors (ink colors) (color image material) used by the color printer column 8, lines 9-13).

Applicant also argues that Fuchigami does not teach changing a conversion coefficient for converting a RGB signal into a CMY signal based on a type of a color image.

In reply, Fuchigami discloses wherein the conversion unit changes a conversion coefficient for converting the RGB signal into the CMY signal based on a type of the color image (column 8, lines 23-30; e.g., When a density variation is sensed for the determination of a character or letter, the method used for this determination should be changed (a conversion coefficient must change accordingly) in accordance with the color of the background of the character or letter, column 13, line 65 – column 14, line 6).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 31, and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Fuchigami et al. (Fuchigami) (US 7,006,253).

With regard to claim 1, Fuchigami discloses an image processing apparatus (column 7, lines 58-59) comprising: an input unit that acquires a RGB signal corresponding to a color image (e.g. the RGB image signals generated by this color scanner, column 8, lines 6-8); a conversion unit that converts the RGB signal into a CMY signal according to characteristics of color image material (e.g., the color conversion section 131 is a processing section, which receives the RGB image signals sent from the color scanner 1, and converts them into CMY image signals. These CMY image signals represent the image-formation component colors (ink colors) (color image material) used by the color printer column 8, lines 9-13); an extraction unit that extracts an image attribute from the CMY signal (e.g., the first and second color determination sections (an extraction unit), column 9, lines 22-55); and a processing unit that applies, based on the image attribute, an adaptive image processing to the RGB signal (e.g., each section of the color printer first perform processing with respect to the RGB

image signals, and then RGB signals subjected to the processing by each section are converted into CMY image signals, column 8, lines 16-46).

With regard to claim 2, Fuchigami discloses wherein the extraction unit calculates an edge amount of the color image as the image attribute (column 1, lines 54-63).

With regard to claim 3, Fuchigami discloses wherein the extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the image attribute (column 8, lines 16-23).

With regard to claim 4, Fuchigami discloses wherein the conversion unit changes a conversion coefficient for converting the RGB signal into the CMY signal based on a type of the color image (column 8, lines 23-30; e.g., When a density variation is sensed for the determination of a character or letter, the method used for this determination should be changed (a conversion coefficient must change accordingly) in accordance with the color of the background of the character or letter, column 13, line 65 – column 14, line 6).

With regard to claim 5, Fuchigami discloses wherein the type of the color image is any one of a print image, a photographic printing paper image, and a photocopy image (e.g., a digital color copying machine that forms a duplicate image of color image, column 2, lines 64-67).

With regard to claim 31, Fuchigami discloses an image processing (column 7, lines 58-59) method comprising: acquiring a RGB signal corresponding to a color image (column 8, lines 6-8); converting the RGB signal into a CMY signal according to characteristic of color image material (e.g., the color

conversion section 131 is a processing section, which receives the RGB image signals sent from the color scanner 1, and converts them into CMY image signals. These CMY image signals represent the image-formation component colors (ink colors) (color image material) used by the color printer, column 8, lines 9-13); extracting an image attribute from the CMY signal (e.g., the first and second color determination sections (an extraction unit), column 9, lines 22-55); and applying, based on the image attribute, an adaptive image processing to the RGB signal (e.g., each section of the color printer first perform processing with respect to the RGB image signals, and then RGB signals subjected to the processing by each section are converted into CMY image signals, column 8, lines 16-46).

Referring to claim 37:

Claim 37 is a computer readable medium storing a computer program claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 37 is rejected as set forth above for claim 1.

Claims 21-25, 35, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchigami et al. (Fuchigami) (US 7,006,253) and in view of Fan et al. (Fan) (US 6,621,595).

With regard to claim 21, Fuchigami discloses an image processing apparatus (column 7, lines 58-59) comprising: an input unit that acquires a RGB signal corresponding to a color image (column 8, lines 6-8); a first conversion unit that converts the RGB signal into a CMY signal according to characteristic of color image material (e.g., the color conversion section 131 is a processing

section, which receives the RGB image signals sent from the color scanner 1, and converts them into CMY image signals. These CMY image signals represent the image-formation component colors (ink colors) (color image material) used by the color printer , column 8, lines 9-13); a first extraction unit that extracts a first image attribute from the CMY signal (e.g., the first and second color determination sections (an extraction unit), column 9, lines 22-55); a second conversion unit that generates image signals required for determining whether an image to be processed is character image or halftone image from the RGB signal (column 8, lines 16-26); a second extraction unit that extracts a second image attribute from the signal generated by the second conversion unit (column 8, lines 26-30); and a processing unit that applies, based on the first image attribute and the second image attribute, an adaptive image processing to the RGB signal (e.g., each section of the color printer first perform processing with respect to the RGB image signals, and then RGB signals subjected to the processing by each section are converted into CMY image signals, column 8, lines 16-48)..

Fuchigami differs from claim 21, in that he does not explicitly teach generates a signal including either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal.

Fan discloses generating a signal including either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal (detail 42, figure 7, block 704).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami to include generating a signal including either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal as taught by Fan. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami by the teaching of Fan to be used for image processing to perform a number of image enhancements for scanned document images. These image enhancements include text edge sharpening, text edge darkening, color fringe removal (detail 2).

With regard to claim 22, Fuchigami discloses wherein the first extraction unit calculates an edge amount of the color image as the first image attribute (column 8, lines 60-66), and the second extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the second image attribute (column 8, lines 23-30).

With regard to claim 23, Fuchigami discloses wherein the first extraction unit calculates the edge amount from a C signal and an M signal of the CMY signal as the second image attribute (column 15, lines 21-29).

With regard to claim 24, Fuchigami discloses wherein the first conversion unit changes a conversion coefficient for converting the RGB signal into the CMY signal based on a type of the color image (column 8, lines 23-30).

With regard to claim 25, Fuchigami discloses wherein the type of the color image is any one of a print image, a photographic printing paper image, and a

photocopy image (e.g., a digital color copying machine that forms a duplicate image of color image, column 2, lines 64-67).

Referring to claim 35:

Claim 35 is the method claim corresponding to operation of the device in claim 21 with method steps corresponding directly to the function of device elements in claim 21. Therefore claim 35 is rejected as set forth above for claim 21.

Referring to claim 41:

Claim 41 is a computer readable medium storing a computer program claim corresponding to operation of the device in claim 21 with method steps corresponding directly to the function of device elements in claim 21. Therefore claim 41 is rejected as set forth above for claim 21.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

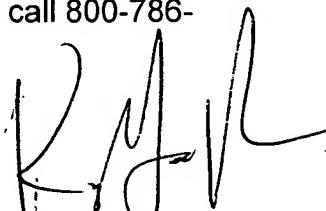
the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is 5712701121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 5712727440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Quang N. Vo 1/8/08  
Patent Examiner

  
KING Y. POON  
SUPERVISORY PATENT EXAMINER